

REMARKS

Upon entry of the forgoing amendments, claims 2-9, 13-20, 24-31, and 36-43 are pending in this application with claims 2, 13, 24, and 36 being independent claims. No claim is allowed.

Claims 2, 13, 24, 36, and 39 have been amended to further particularly point out and distinctly claim subject matter regarded as the invention. Claims 36 and 39 have been amended to improve antecedent basis. The text of claims 3-9, 14-20, 25-31, 37, 38, and 40-43 is unchanged, but their meaning is changed because they depend from amended claims.

The 35 U.S.C. §§ 102 & 103 Rejections

Claims 2, 5, 13, 16, 24, and 27 stand rejected under 35 U.S.C. § 102(e) as being allegedly anticipated by *Lin et al.* (US 6,751,668 B1). Claims 3, 4, 6, 14, 15, 17-20, 25, 26, and 29-31 stand rejected under 35 U.S.C. § 103(a) as being allegedly unpatentable over *Lin* in view of *Primeaux et al.* (US 6,334,121 B1). Claims 36-43 stand rejected under 35 U.S.C. § 103(a) as being allegedly unpatentable over *Lin* in view of *Primeaux* and further in view of *Prabandham et al.* (US 6,701,438 B1). These rejections are respectfully traversed.

Generally, the Office Action states that *Lin* discloses or suggests all or most of the claim elements and limitations and that the other two references disclose or suggest the rest. However, the rejection is technically incorrect. The technical confusion is created by *Lin* who uses non-standard language in the prior art description and claims.

Lin starts column 2 of the Detailed Description as follows:

FIG. 1 illustrates an aspect of the invention in a broad form. Referring to FIG. 1, a source 102 initiates a *session establishment request* (e.g., a *TCP SYN packet*; a new UDP or ICMP packet) to a target 104. A connection is attempted to be established at a port 112 of the target 104. The arrow 110 represents a SYN/ACK acknowledgement by the target 104. A filter 106 operates to selectively block session establishment packets 108 from being provided to the target 104. (emphasis added)

In this passage, *Lin* appears to be equating the phrase "session establishment request" with a TCP SYN (synchronize) packet. However, the proper language is to establish "connections" and not sessions. According to the Internet protocol, the procedure to establish connections utilizes the synchronize (SYN) control flag and involves an exchange of three messages. This exchange has been termed a three-way handshake. This procedure normally is initiated by one TCP and responded to by another TCP. The connection becomes "established" when sequence numbers have been synchronized in both directions. Since the terms SYN segment and connections are more technically accurate, they will be used exclusively in the following discussion.

In a Denial-of-Service attack as envisioned by *Lin*, the attacker launches an immense volume of bogus SYNs to bog the target TCP down by attempting to engage the target TCP in numerous connection establishment exchanges. Even if the connections are not fully established or not maintained for long, the target TCP can be overwhelmed by the sheer volume of traffic. *Lin* effectively discloses on column 2, line 57 that the action of the filter 106 of FIG. 1 is to ignore the initial SYN of the three-way handshake. In the embodiment of FIG. 3, *Lin* discloses that rather than deny all connections, a certain number may still be established even at times when the target TCP is probably under attack. At times when the target TCP is not under attack, connections may be made freely. Consequently, the approach of *Lin* is to monitor SYN segments to determine when a DoS attack is occurring and to respond by either completely or selectively ignoring such SYNs. At least one drawback of the *Lin* approach is that it overlooks the potential damage that an existing connection may cause. This connection may have been established before the DoS attack was scheduled to launch or may be one of *Lin's* selectively allowed connections that is imprudently established during the attack. Indeed, *Lin* and the present invention can work hand-in-hand.

By contrast, in the DoS attack as addressed by the present claims and not by *Lin*, the attacker is a "connected" "subscriber" who uses a sufficient number of GETs or POSTs to bog the target TCP down by sheer volume of traffic. The claims go beyond the issue of establishing a connection. The subscriber has been authorized to make a connection and the connection has been made. What the connected subscriber has not yet been "authorized" to do is exceed the "maximum HTTP request frequency." Rather than establish one and only one maximum frequency, the claims allow each connected subscriber to have their own. The maximums may all be the same or they may not thus allowing preferential treatment to select subscribers. The "profile" is used to differentiate one subscriber from another. Since *Lin* fails to consider GETs, POSTs, or connected subscribers, the reference can not be said to anticipate the current claims. Further, without *Lin* the other cited references fail to render the current claims obvious.

With regard to the Examiner's Note on page 13 of the Office Action, the Applicant respectfully counters that the Office is obligated to provide a complete prosecution history for appropriate review. If a rejection lacks sufficient logical or technical support, then the burden of the Applicant is met by merely pointing this out. The Applicant will not endeavor to speculate on ways to reform the rejection. If the Applicant were to respond only to the Applicant's formulation of the rejection and not to the rejection as written, then they risk having their arguments deemed non-responsive.

In view of the above, it is respectfully asserted that the claims are now in condition for allowance.

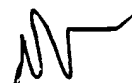
Request for Allowance

In view of the foregoing, reconsideration and an early allowance of this application are earnestly solicited.

If any matters remain which could be resolved in a telephone interview between the Examiner and the undersigned, the Examiner is invited to call the undersigned to expedite resolution of any such matters. Please charge any additional required fee or credit any overpayment not otherwise paid or credited to our deposit account No. 50-1698.

Respectfully submitted,
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